AMENDMENTS TO THE DRAWINGS

The attached sheet(s) of drawings include changes to Figures 8-10.

These sheet(s) which include Figures 8-10 replace the original Figures 8-10. In these figures, the label "Prior Art" has been added.

Attachment: Replacement sheets
Annotated sheets showing changes

REMARKS

Claims 1-44, 46-67 and 69-88 are pending in the present application. Claims 2-15, 17-21, 23-27, 29-33, 35-50, 52-56, 58-67, 69-73, 75-78, 80-83 and 85-88 have been withdrawn from consideration. The Drawings have been objected to. Claims 34, 51,79, 57 and 84 have been rejected under 35 U.S.C. § 101. Claims 1, 22, 28, 34, 51, 57, 74, 79, and 84 are rejected under 35 U.S.C. § 103(a) over Hayata (EP 0751490A2) in view of Saikaly (U.S. Patent 5,893,056) and further in view of Applicant's Admitted Prior Art (Spec, pages 1-8, in the section of Background Art, hereinafter referred to as AAPA). Claim 16 has been rejected under § 103(a) over Hayata in view of Saikaly and further in view of Jarvinen et al. (U.S. Patent 5,960, 389). Claims 1, 34 and 57 have been amended hereby. Reconsideration of the present application is respectfully requested in light of the above amendments and below remarks.

In paragraph 4 of the Office Action, the Drawings have been objected to. Applicant has amended Figures 8-10 to add the legend "Prior Art." This amendment to the Drawings does not add new matter and merely confirms the Drawings to the Specification. Withdrawal of the objection to the Drawings is respectfully requested.

In paragraph 6 of the Office Action, claims 34, 51,79, 57 and 84 have been rejected under 35 U.S.C. § 101. Applicant respectfully traverses this rejection. The Office Action makes two arguments under § 101 regarding the claims : 1) that they do not perform a transformation; and 2) that the claimed steps are not positively tied to a particular machine that accomplishes the claimed method. In response to this rejection, claim 34 has been amended to recite that the method of decoding speech signals is performed in a speech decoding device, and specifically that the smoothing and decoding acts are performed by the speech decoding device. Applicant respectfully submits that this amendment ties the method to a specific machine – a speech decoding device. Claim 57 has been amended, as suggested in the Office Action, to recite that the claimed computer readable medium is "non-transitory." Applicant further argues that the claimed method does indeed perform a transformation. Rather than being mere "numbers" as suggested in the Office Action, the signals on which the decoding device acts are representative of speech. The feature parameter of

the spectral envelope characteristic is a parameter of the physical speech that was originally encoded. Similarly, the claimed decoding operation takes encoded speech signals and transforms them back to speech signals that can be recognized by humans. Applicant therefore respectfully submits that a physical transformation does indeed take place, from encoded speech signals representing speech, into decoded speech signals that can be recognized as speech.

In light of the above amendments and arguments, withdrawal of the § 101 rejection of claims 34, 51,79, 57 and 84 is respectfully requested.

In paragraph 8 of the Office Action, claims 1, 22, 28, 34, 51, 57, 74, 79, and 84 have been rejected under 35 U.S.C. § 103(a) over Hayata in view of Saikaly and further in view of Applicant's Admitted Prior Art. Applicant respectfully traverses this rejection. Each of independent claims 1, 34 and 57 require performing smoothing "using a smoothed feature parameter for spectral envelope characteristics of an immediately preceding frame." This feature of the present invention is neither taught nor suggested by the combination of the prior art.

Hayata discloses changing the strength of inverse characteristics of a smoothed filter coefficient in accordance with a count value of frames during a predetermined period (M frames) (see Abstract). However, Hayata uses the same smoothed filter coefficient throughout the predetermined period (see Column 8, lines 5-55). In other words, the same smoothed filter coefficient is used for M frames of the predetermined period. Hayata does not teach or suggest using a smoothed feature parameter for spectral envelope characteristics of an immediately preceding frame to smooth a feature parameter for spectral envelope characteristics of a current frame as recited in the independent claims.

Saikaly discloses averaging LPC coefficients over a current frame and the previous 18 frames whether speech sounds are contained in the current frame or not (see column 3, lines 43-57). Thus, Saikaly does not teach or suggest smoothing in a voice-less period separated from a voice period as required by the independent claims.

Accordingly, neither Hayata nor Saikaly teach or suggest the use of the smoothed feature parameter for spectral envelope characteristics of the immediately preceding frame to smooth the feature parameter for spectral envelope characteristics of the current frame in the voice-less period.

The Office Action asserts that AAPA teaches using previously received feature parameters in the claimed smoothing process. Applicant respectfully disagrees. The Background section of the present specification merely teaches **direct use** of previously transmitted feature parameter for spectral envelope characteristics in a current frame when the feature parameters are not received in the current frame. Unlike the claimed invention, the AAPA discloses nothing about **smoothing the feature parameter** for the spectral envelope characteristics. Though the AAPA does disclose smoothing the RMS of a previous frame, it does not teach or suggest use of the past transmitted feature parameter for spectral envelope characteristics. The RMS is not similar to the spectral envelope characteristics.

In marked contrast to the prior art, the invention according to claims 1, 34 and 57 smoothes a feature parameter for spectral envelope characteristics of a current frame using a smoothed feature parameter for spectral envelope characteristics of an immediately preceding frame in a voice-less period. With this structure, the decoding device can suppress deterioration of quality of sounds. This feature of the presently claimed invention is neither taught nor suggested by the combination of Hayata, Saikaly and AAPA. Withdrawal of the rejection of claims 1, 22, 28, 34, 51, 57, 74, 79, and 84 on the basis of the combination of Hayata, Saikaly and AAPA is therefore respectfully requested.

In paragraph 9 claim 16 has been rejected under § 103(a) over Hayata in view of Saikaly and further in view of Jarvinen. Applicant respectfully traverses this rejection. Claim 16 depends on claim 1 and therefore includes all of the limitations thereof. Jarvinen has been added to the combination of Hayata and Saikaly for further features recited in claim 16. However, Jarvinen does not cure the deficiencies of the combination of Hayata and Saikaly as described above with respect to claim 1. Withdrawal of the rejection of claim 16 on the basis of the combination of Hayata in view of Saikaly and Jarvinen is therefore respectfully requested.

As each of the claims of the present application are in condition for allowance, such action is earnestly solicited.

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Respectfully submitted,

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